

Appl. No. 09/771,977 Amdt. Dated December 3, 2003 Reply to Office action of September 16, 2003 Attorney Docket No. P12291-US1 EUS/J/P/03-2017

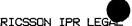
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- (Currently Amended) A method for calibrating one or more amplifiers (100,200) comprising the steps of:
- i) generating a noise sighal (N₂+N₁) produced by said one or more amplifiers (100,200) when no input signal (\$i+Ni) is connected (Alt. 2) to at least one amplifier of said one or more amplifiers (100),200); and
- ii) using said noise signal (N_a+N_i) as a calibrating signal for estimating a corresponding gain (G) of said one or more amplifiers (100,200) by measuring (600) at at least one output of said one or more amplifiers (100,200) the amount of noise (S_{tot}) of said one or more amplifiers (100,200).
- 2. (Previously Presented) A method for calibrating [at least] one or more amplifiers (100,200) according to claim 1, wherein said gain (G) is further adjusted in accordance with said calibrating signal.
- 3. (Currently Amended) A method for calibrating a receiver (1,2) comprising the steps of:
- i) generating a noise signal (Na+Ni) produced by one or more amplifiers (100,200) of said receiver when an input signal (Si+Ni) is disconnected (Alt. 2) from said receiver; and

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- ii) using said noise signal (Na+Ni) as a calibrating signal for estimating a corresponding gain (G) of said one/or more amplifiers in said receiver by measuring (600) at the output of the receiver the amount of noise (Stot) of said one or more amplifiers (100,200).
- 4. (Previously Presented) A method for calibrating a receiver according to claim 3, wherein said gain (G) is further adjusted in accordance with said calibrating signal.
- 5. (Previously Presented) A calibration a rangement (1,2) comprising: one or more amplifiers (100,200) for amplifying a radio signal (S_i+N_i); estimating means (600) for estimating a gain (G) of said one or more amplifiers (100,200);

disconnecting said radio signal (Si+Ni), while at least one amplifier of said one or more amplifiers (100,200) is producing a calibrating signal (Na+Ni) as a reference signal into said estimating means (600) for estimating said gain (G) of said radio signal (\$i+Ni).

6. (Previously Presented) A calibration arrangement (1,2) comprising: one or more amplifiers (100,200) for amplifying a radio signal (Si+Ni); estimating means (600) for estimating a gain (G) of said one or more amplifiers (100,200);

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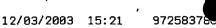
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wherein said calibration arrangement (1,2) further comprises:

a switching means (10,30+100), for disconnecting said radio signal (S_i+N_i), while at least one amplifier of said one or more amplifiers (100,200) is producing a calibrating signal (N₂+N₁) as a reference signal into said estimating means (600) for estimating said gain (G) of said radio signal (Si+Ni).

- (Previously Presented) A calibration arrangement (1,2) according to claim 5, wherein said calibrating signal is a pure∖noise signal (Na+N₁) of at least one amplifier of said one or more amplifiers (100,200).
- 8. (Previously Presented) A calibration arrangement (2) according to claim 5, wherein disconnecting said one or more amplifiers (100,200) from said radio signal (S_i+N_i) by disconnecting a power supply (500) from at least one amplifier of said one or more amplifiers (100,200).
- 9. (Previously Presented) A calibration arrangement (2) according to claim 6, wherein said switching means (30+100) is disconnecting said one or more amplifiers (200) from said radio signal (Si+Ni) by disconnecting a power supply (500) from at least one amplifier of said one or more amplifiers (100,200).
- 10. (Previously Presented) A calibration arrangement (1) according to claim 5, wherein disconnecting said one or more amplifiers (100,200) from said radio

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signal (S_I+N_I) by connecting at least one input of said one or more amplifiers (100,200) to a reference potential (20).

- (Previously Presented) A calibration arrangement (1) according to claim 6, wherein said switching means (\(\)0) is disconnecting said one or more amplifiers (200) from said radio signal (Si+Ni) by connecting at least one input of said one or more amplifiers (100,200) to a reference potential (20).
- A calibration arrangement (1) according to 12. (Previously Presented) claim 10, wherein said reference potential is provided by a resistance (20) [through] connected to ground.
- 13. (Previously Presented) A calibration arrangement (1,2) according to claim 5, wherein the calibration arrangement (1,2) further comprises:

more than one amplifier (100+200) in a chain for amplifying said received radio signal (S_i+N_i).

14. (Previously Presented) A calibration arrangement (1,2) according to claim 6, wherein said switching means (10,30+100) is disconnecting said one or more amplifiers (100,200) from said radio signal (S_i+N_i) by disconnecting at least one input of said one or more amplifiers (100,200) which is closest to an input of said radio signal (Si+Ni).

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- 15. (Previously Presented) a calibration arrangement (1,2) according to claim 5, wherein said calibrating signal represents a noise power (kTBF) from said one or more amplifiers (100,200) that comprises:
 - a known Boltzman constant (k);
 - a known bandwith (B) of said noise power;
 - a known noise figure of said noise power;
 - a measured temperature (T) of said receiver.
- 16. (Previously Presented) A calibration arrangement (1,2) according to claim 5, an output from the last one of said one or more amplifiers (100,200) in a chain is connected to an analog-digital-converter (400) for converting analog signals into digital signals.
- 17. (Previously Presented) A calibration an angement (1,2) according to claim 15, wherein said gain (G) of said radio signal (S_i+N_i) is estimated from said calibrating signal (N_a+N_i) including said noise power (k+BF) when an output signal (S_{tot}) is measured at at least one output of said one or mote amplifiers (100,200).
- 18. (Previously Presented) A calibration arrangement (1,2) according to claim 5, wherein said gain (G) of said radio signal (S_i+N_i) is estimated from said calibrating signal (N_a+N_i) when an output signal (S_{tot}) is measured at at least one output of said one or more amplifiers (100,200).

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19. (Previously Presented) A calibration arrangement (1,2) according to claim 16, wherein said gain (G) of said radio signal (S_i+N_i) is estimated from said calibrating signal (N_a+N_i) when an output signal (S_{tot}) is measured after said analog-digital-converter (400).

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20. (Previously Presented) A receiver (1,2) comprising:

means (300) for receiving a radio signal (S₁+N₁);

one or more amplifiers (100,200) for amplifying said received radio signal (S_i+N_i) ;

estimating means (600) for estimating a gain (G) of said receiver (12); wherein said receiver further comprises:

- a switching means (10,100) for disconnecting said received signal (S_i+N_i), while at least one amplifier of said one or more amplifiers (100,200) is producing a calibrating signal (N_a+N_i) as a reference signal to said estimating means (600) for estimating said gain (G) of said radio signal (S_i+N_i).
- 21. (Previously Presented) A receiver (1,2) according to claim 20, wherein said calibrating signal is a pure noise signal (N_a+N_i) of at least one amplifier of said one or more amplifiers (100,200).

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- 22. (Previously Presented) A receiver (1) according to claim 20, wherein said switching means (10) is disconnecting said radio signal (S_i+N_i) by connecting at least one input of said one or more amplifiers (100) to a reference potential (20).
- 23. (Previously Presented) A receiver (1) according to claim 22, wherein said reference potential is provided by a resistance (20) connected to ground.
- 24. (Previously Presented) A receiver (2) according to claim 20, wherein said switching means (100) is disconnecting said one or more amplifiers (100,200) from said radio signal (S_r+N_I) by disconnecting a power supply (500) from at least one amplifier of said one or more amplifiers (100,200).
- 25. (Previously Presented) A receiver (1,2) according to claim 20, wherein the receiver (1,2) further comprises:

more than one amplifier (100+200) in a chain for amplifying said received radio signal (S_i+N_i).

- 26. (Previously Presented) A receiver (1,2) according to claim 20, wherein said calibrating signal represents a noise power (kTBF) from said one or more amplifiers (100,200) that comprises:
 - a known Boltzman constant (k);
 - a known bandwith (B) of said noise power;

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- a known noise figure of said noise power;
- a measured temperature (T) of said receiver.
- 27. (Previously Presented) A receiver (1,2) according to claim 20, wherein an output from the last one of said one or more amplifiers (200) in a chain is connected to an analog-digital-converter (400) for converting analog signals into digital signals.
- 28. (Previously Presented) A receiver (1,2) according to claim 26, wherein said gain (G) of said received radio signal (S_i+N_i) is estimated from said calibrating signal (N_a+N_i) including said noise power (kTBF) when an output signal (S_{tot}) is measured at at least one output of said one or more amplifiers (100,200).
- 29. (Previously Presented) A receiver (1,2) according to claim 20, wherein said gain (G) of said received radio signal (S_i+N_i) is estimated from said calibrating signal (N_a+N_i) when an output signal (S_{tot}) is measured at at least one output of said one or more amplifiers (100,200).
- 30. (Previously Presented) A receiver (1,2) according to claim 27, wherein sald gain (G) of said received radio signal (S_l+N_l) is estimated from said calibrating signal (N_a+N_l) when an output signal (S_{lot}) is measured after said analog-digital-converter (400).

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